

Application Number 10/750,507
Response to final Office Action mailed July 3, 2007

REMARKS

This Amendment is responsive to the Final Office Action dated July 3, 2007. The Amendment accompanies a Request for Continued Examination (RCE) and constitutes the required submission. Applicant has amended claims 1, 12, 18, and 23. Claims 1-33 are now pending.

Claim Rejection Under 35 U.S.C. § 102

In the Final Office Action, the Examiner rejected claims 1-8, 12-19 and 23-30 under 35 U.S.C. 102(e) as being anticipated by McLean et al. (U.S. Patent Publication No. 2003/0018506, hereinafter "McLean"). Applicant respectfully traverses the rejection to the extent such rejection may be considered applicable to the amended claims. McLean fails to disclose each and every feature of claims 1-8, 12-19 and 23-30, as required by 35 U.S.C. 102(e), and provides no teaching that would have suggested the desirability of modification to include such features.

Independent Claims 1, 12, and 23

Independent claims 1, 12, and 23, as amended, now require accessing at least one stream of events in real time as the at least one stream of events is received as output from a streaming database system, processing, external to the streaming database system, a plurality of view snapshots from a materialized view of said stream (each view snapshot corresponding to an individual event within said stream), and using said view snapshots to generate, external to the streaming database system, a view that incorporates new events of said stream. McLean fails to disclose or suggest at least these claim elements. With regards to claims 1, 12, and 23, the Examiner repeatedly refers to the event matrix data structure 400 (shown, for example, in FIG. 11) and the object database 902 (shown, for example, in FIG. 23) along with exemplary object records (such as those shown in FIGS. 25A-C) that may be stored in the object database 902. Applicant submits, however, that McLean fails to disclose or suggest accessing at least one stream of events in real time while the stream of events is received as output from a streaming database system, as required by claims 1, 12 and 23. Instead, the events described in McLean are captured within an event matrix 400, which is stored in a relational database 104.¹ In McLean,

¹ Page 12, Paragraph [0164] of McLean.

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an event, or information about the event, is effectively stored in the database 104. An event stream, as described in McLean, is simply a series of related events,² each of which may be stored in the database 104. Examples of such event streams are changes in royalty rates, changes in growth rates for sales, or negotiating success with potential partners.³ Applicant submits, however, that individual events in an event stream of McLean may occur at any point, or sporadically, in time, and do not constitute a real-time stream of events that are received as output from a streaming database system. Thus, Applicant submits that McLean fails to disclose or suggest accessing at least one stream of events in real time while the stream of events is received as output from a streaming database system, as required by the claims.

McLean further fails to disclose or suggest processing, external to the streaming database system, a plurality of view snapshots from a materialized view of said stream, wherein each view snapshot corresponds to an individual event within said stream, as required by claims 1, 12, and 23. In the Office Action, the Examiner attempted to interpret the diagrammatic views (FIGS. 25A-C) of object records as view snapshots. Applicant, however, does not agree with this interpretation. The disclosed records are simply object records (e.g., customer object record 908, product object record 909, financial object record 910) that are stored in object database 902. Though identifiers in McLean may link certain events stored in the event matrix with particular object records, both the event matrix and object records are stored within individual databases 104 and 902, respectively. Claims 1, 12, and 23, however, require that view snapshots be processed external to a streaming database system from a materialized view of the stream. As stated above, the object records disclosed in McLean are stored within the database 902.

Further, McLean fails to disclose or suggest using said view snapshots to generate, external to the streaming database system, a view that incorporates new events of said stream, as required by claims 1, 12, and 23. In the Office Action, the Examiner attempted to interpret the modified matrix 400 in FIG. 13 of McLean as such a view. Applicant, however, does not agree with this interpretation, particularly in light of the amendments to the claims. Firstly, the modified matrix 400 shown in FIG. 13 is stored within database 104, and is not external to a streaming database system. Secondly, the modified matrix 400 is not generated from the object

² Page 5, Paragraph [0079] of McLean.

³ Page 12, Paragraph [0168] of McLean.

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records diagrammatically shown in FIGS. 25A-C. These object records provide only references to events that are included within the modified matrix 400, and they do not even constitute view snapshots within the meaning of the claims, as outlined above. Therefore, Applicant submits that McLean fails to disclose or suggest each and every element of independent claims 1, 12, and 23.

Dependent Claims 2-8, 13-19, and 24-30

Claims 2-8 depend, either directly or indirectly, on independent claim 1. Claims 13-19 depend, either directly or indirectly, on independent claim 12. Claims 24-30 depend, either directly or indirectly, on independent claim 23. Thus, for at least the reasons outlined above with regards to claims 1, 12, and 23, McLean fails to disclose or suggest each and every element of dependent claims 2-8, 13-19, and 24-30.

Conclusion

For at least these reasons, the Examiner has failed to establish a prima facie case for anticipation of Applicant's claims 1-8, 12-19 and 23-30 under 35 U.S.C. 102(e). Withdrawal of this rejection is requested.

Claim Rejection Under 35 U.S.C. § 103

Dependent Claims 9-10, 20-21 and 31-32

In the Final Office Action, the Examiner rejected claims 9-10, 20-21 and 31-32 under 35 U.S.C. 103(a) as being unpatentable over McLean et al. (U.S. Patent Publication No. 2003/0018506, hereinafter "McLean") as applied to claims 1-8, 13-19 and 23-30 above in view of Zwilling et al. (U.S. Patent Publication No. 2004/0267828, hereinafter "Zwilling"). Applicant respectfully traverses the rejection to the extent such rejections may be considered applicable to the claims as amended. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed inventions.

Claims 9-10 depend directly on independent claim 1. Claims 20-21 depend directly on independent claim 12. Claims 31-32 depend directly on independent claim 23. For at least the reasons outlined above with regards to claims 1, 12, and 23, McLean fails to disclose or suggest each and every element of these dependent claims. Applicant submits that Zwilling does not overcome the deficiencies of McLean. Zwilling is directed to a transaction consistent copy-on-

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write database. Zwilling discloses a database view of a database that contains all the information needed to, along with a primary database, determine the contents of the primary database at a previous point in time.⁴ Zwilling fails to disclose or suggest accessing at least one stream of events in real time from a streaming database system, processing, external to the streaming database system, a plurality of view snapshots from a materialized view of said stream (each view snapshot corresponding to an individual event within said stream), and using said view snapshots to generate, external to the streaming database system, a view that incorporates new events of said stream, as required by claims 9-10, 20-21, and 31-32.

Dependent Claims 11, 22, and 33

In the Final Office Action, the Examiner further rejected claims 11, 22 and 33 under 35 U.S.C. 103(a) as being unpatentable over McLean as applied to claims 1-8, 13-19 and 23-30 above in view of Homayoun Yousefi'zadeh (U.S. Patent Publication No. 2004/0030739, hereinafter "Yousefi'zadeh"). Applicant respectfully traverses the rejection to the extent such rejections may be considered applicable to the claims as amended. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed inventions.

Claim 11 depends directly on independent claim 1. Claim 22 depends directly on independent claim 12. Claim 33 depends directly on independent claim 23. For at least the reasons outlined above with regards to claims 1, 12, and 23, McLean fails to disclose or suggest each and every element of these dependent claims. Applicant submits that Yousefi'zadeh does not overcome the deficiencies of McLean. Yousefi'zadeh is directed to database remote replication for multi-tier computer systems. In Yousefi'zadeh, a replication method and system are disclosed for a computer system having multiple database servers for at least one database, wherein database servers are provided with a unified view of the data content.⁵ Yousefi'zadeh fails to disclose or suggest accessing at least one stream of events in real time from a streaming database system, processing, external to the streaming database system, a plurality of view snapshots from a materialized view of said stream (each view snapshot corresponding to an individual event

⁴ See Abstract and Summary of Zwilling.

⁵ See Abstract and Summary of Yousefi'zadeh.

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within said stream), and using said view snapshots to generate, external to the streaming database system, a view that incorporates new events of said stream, as required by claims 11, 22 and 33.

Conclusion

For at least these reasons, the Examiner has failed to establish a *prima facie* case for non-patentability of Applicant's claims 9-11, 20-22 and 31-33 under 35 U.S.C. 103(a). Withdrawal of the rejections is requested.

CONCLUSION

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Although Applicant has focused the arguments above on specific claims, Applicant does not acquiesce to any of the rejections of dependent claims that are not specifically discussed. Applicant reserves further comment on any such claims, but reserves the right to present additional arguments on any of the pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date:

Oct. 2, 2007

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